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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,452	12/14/2001	Ralph A. Mosher	D/A1286	1083

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EXAMINER

RHEE, JANE J

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,452

Applicant(s)

MOSHER ET AL.

Examiner

Jane Rhee

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,6,8-11,13-18 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,8-11,13-18,21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/20/2005 has been entered.

Rejections Withdrawn

2. The 35 U.S.C. 103(a) rejection of claims 1,4,6-11,18,21,22-25 over Parker et al. in view of Arnold et al. has been withdrawn due applicant's argument made in paper 1/20/2005.

3. The 35 U.S.C. 103(a) rejection of claims 12,14-16 over Parker et al. in view of Arnold et al. and in further view of Schlueter Jr. et al. has been withdrawn due applicant's argument made in paper 1/20/2005.

4. The 35 U.S.C. 103(a) rejection of claims 13 over Parker et al., Arnold et al. and Schlueter jr. et al. in view of Yamasaki has been withdrawn due applicant's argument made in paper 1/20/2005.

5. The 35 U.S.C. 103(a) rejection of claim 26 over Parker et al., Arnold et al. in view of Schlueter jr. et al. has been withdrawn due to applicant's argument made in paper 1/20/2005.

New Rejections

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1,4,6-12,14-16,18,21,22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al. in view of Arnold et al. (4663371) and in further view of Schlueter Jr. et al. (5942301).

As to claims 1,24,25, Parker et al. discloses an endless seamed flexible belt comprising a first end and a second end (figure 1) each of the first end and the second end comprising a plurality of mutually mating elements which join in an interlocking relationship to form a seam (figure 1 number 11), the belt comprising a polyimide substrate (col. 5 line 18) and the seam comprising an adhesive comprising a polyamide (col.8 lines 39-42,53-68). As to claim 21, Parker et al. discloses that the belt is an intermediate belt (col. 1 lines 48) and electrographic imaging apparatus and processes for use as photoreceptors, intermediate sheet and or image transport devices (col. 1 lines 46-49). As to claims 22-23, Parker et al. discloses that the plurality of mutually mating elements are in the form of a puzzle cut pattern wherein the mutually mating elements comprise a first projection and a second receptacle geometrically oriented so that the second receptacle on the first end receives the first projection on the second end and wherein the first projection on the first end is received by the second

receptacle on the second end to form a joint between the first and second ends (figures 2-5).

Parker et al. fail to disclose a plasticizer selected from the group consisting of alcohols, amines, thiols, organic acids, oligomers and mixtures thereof. Parker et al. fail to disclose that the plasticizer is selected from the group consisting of bisphenols, paratoluene sulfonamides, phosphates, esters, castor oil, and mixtures thereof. Parker et al. fail to disclose oxalic acid. Parker et al. fail to disclose that the polyamide comprises pendant groups selected from the group consisting of methoxy, ethoxy and hydroxy pendant groups. Parker et al. fail to disclose that the pendant groups are methylene methoxy pendant groups. Parker et al. fail to disclose that the polyamide has a general formula wherein in the constituent of nitrogen consists of hydrogen, alkyl having from about 1 to about 20 carbons, alkoxy having from about 1 to about 20 carbons, alkyl alkoxy having from about 1 to about 20 carbons and alkylene alkoxy having from about 1 to about 20 carbons, and wherein n is a number of from about 50 to about 1,000. Parker et al. fail to disclose that the nitrogen constituent is methylene methoxy group. Parker et al. fail to disclose that the adhesive is crosslinked.

As to claims 4-6, Arnold et al. teaches that the adhesive comprises polyamide (col.1 line 52), oxalic acid (col. 3 line 24), a plasticizer, bisphenol of 5%wt(col. 1 line 52) and wherein the adhesive is crosslinked (col. 3 line 41) for the purpose of to increase the adhesion of the polyamide (col. 3 lines 59-61). As to claims 8-11, Arnold et al. teaches that the polyamide comprises methylene methoxy pendant groups and that the polyamide has a general formula wherein in the constituent of nitrogen consists of

Art Unit: 1745

hydrogen and a methylene methoxy group (col. 2 line 65) for the purpose of creating an improved adhesive composition (col. 1 lines 6-7).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. with the adhesive that comprises polyamide, oxalic acid, a plasticizer, bisphenol of 5%wt, and wherein the adhesive is crosslinked in order to increase the adhesion of the polyamide (col. 3 lines 59-61) as taught by Arnold et al.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. with the polyamide that comprises methylene methoxy pendant groups and that the polyamide has a general formula wherein in the constituent of nitrogen consists of hydrogen and a methylene methoxy group (col. 2 line 65) in order to create an improved adhesive composition (col. 1 lines 6-7) as taught by Arnold et al.

Parker et al. and Arnold et al. fail to disclose that the adhesive further comprises electrically conductive fillers. Parker et al. and Arnold et al. fail to disclose that the conductive filler is selected from the group consisting of carbon fillers, metal oxide fillers, polymer fillers, charge transporting molecules and mixtures thereof. Parker et al. and Arnold et al. fail to disclose that the carbon filler is selected from the group consisting of carbon black, graphite, fluorinate carbon, and mixtures thereof. Parker et al. and Arnold et al. fail to disclose that the electrically conductive filler is a metal oxide filler selected from the group consisting of titanium dioxide, tin oxide, indium tin oxide, iron oxide aluminum oxide, and mixtures thereof.

As to claims 14-16, Schlueter Jr. et al. discloses that the adhesive further comprises electrically conductive fillers (col. 6 lines 50) and that the conductive filler is selected from the group consisting of carbon fillers, metal oxide fillers, polymer fillers, charge transporting molecules and mixtures thereof (col. 9 lines 6-17) wherein the carbon filler is selected from the group consisting of carbon black, graphite, fluorinate carbon, and mixtures thereof (col. 9 lines 10-11) and wherein the electrically conductive filler that is a metal oxide filler selected from the group consisting of titanium dioxide, tin oxide, indium tin oxide, iron oxide aluminum oxide, and mixtures thereof (col. 9 lines 5-10) for the purpose of exhibiting high mechanical strength providing heat-conducting properties this in turn improves the thermal efficiency of a fusing system employing the belt and possessing tailored electrical properties (col. 5 lines 3-6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. and Arnold et al. with the adhesive further comprises electrically conductive fillers wherein the conductive filler is selected from the group consisting of carbon fillers, metal oxide fillers, polymer fillers, charge transporting molecules and mixtures thereof, wherein the carbon filler is selected from the group consisting of carbon black, graphite, fluorinate carbon, and mixtures thereof and wherein the electrically conductive filler that is a metal oxide filler selected from the group consisting of titanium dioxide, tin oxide, indium tin oxide, iron oxide aluminum oxide, and mixtures thereof in order to exhibit high mechanical strength providing heat conducting properties this in turn improves the thermal efficiency of a

fusing system employing the belt and possessing tailored electrical properties (col. 5 lines 3-6) as taught by Schlueter Jr. et al.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al., Arnold et al., and Schlueter Jr. et al. in view of Yamasaki (5863626).

Parker et al., Arnold et al. and Schlueter Jr. et al. disclose the belt described above. Parker et al. fail to disclose that the electrically conductive filler is a quaternary ammonium salt. Yamasaki teaches that the electrically conductive filler is a quaternary ammonium salt for the purpose of creating an electrically conductive substrate (col. 1 lines 24-25).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. with the electrically conductive filler is a quaternary ammonium salt in order to create an electrically conductive substrate (col. 1 lines 24-25) as taught by Yamaski.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al., Arnold et al. and Schlueter Jr. et al. in view of Pistoia (6322927).

Parker et al., Arnold et al. and Schlueter Jr. et al. disclose the belt described above. Parker et al. fail to disclose that the electrically conductive filler is a polymer filler such as polypyrrole. Pistoia teaches that the electrically conductive filler is polypyrrole (col.8 lines 13-14) for the purpose of creating a cell (col. 7 line 66).

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. with the electrically conductive filler that is a polymer filler such as polypyrrole in order to create a cell

Art Unit: 1745

comprising a variety of electrolytes, current collectors and cathode compositions (col. 7 line 66).

Response to Arguments

9. Applicant's arguments filed 1/20/2005 have been fully considered but they are not persuasive:

In response to applicant's argument that Parker et al. does not teach or suggest the adhesive comprising an oxalic acid or plasticizer as claimed, Arnold et al. teaches that the adhesive comprises polyamide (col.1 line 52), oxalic acid (col. 3 line 24), a plasticizer, bisphenol of 5%wt(col. 1 line 52) and wherein the adhesive is crosslinked (col. 3 line 41) for the purpose of to increase the adhesion of the polyamide (col. 3 lines 59-61).

In response to applicant's argument that Arnold et al. fail to disclose the use of an electrically conductive filler in the polyamide adhesive, Schlueter Jr. et al. discloses that the adhesive further comprises electrically conductive fillers (col. 6 lines 50) and that the conductive filler is selected from the group consisting of carbon fillers, metal oxide fillers, polymer fillers, charge transporting molecules and mixtures thereof (col. 9 lines 6-17) wherein the carbon filler is selected from the group consisting of carbon black, graphite, fluorinate carbon, and mixtures thereof (col. 9 lines 10-11) and wherein the electrically conductive filler that is a metal oxide filler selected from the group consisting of titanium dioxide, tin oxide, indium tin oxide, iron oxide aluminum oxide, and mixtures thereof (col. 9 lines 5-10) for the purpose of exhibiting high mechanical strength providing heat-conducting properties this in turn improves the thermal

efficiency of a fusing system employing the belt and possessing tailored electrical properties (col. 5 lines 3-6).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Arnold et al. teaches the use of a polyamide adhesive in combination with a thermoplastic material and Parker et al. also teaches the use of a polyamide adhesive in combination with a thermoplastic material. Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. with the adhesive that comprises polyamide, oxalic acid, a plasticizer, bisphenol of 5%wt, and wherein the adhesive is crosslinked in order to increase the adhesion of the polyamide (col. 3 lines 59-61) as taught by Arnold et al.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re*

Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, *Schlueter Jr.* teaches a thermoplastic substrate filled with a conductive filler and *Parker et al.* and *Arnold et al.* teaches the use of a polyamide adhesive in combination with a thermoplastic material. Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide, *Parker et al.* with the adhesive further comprises electrically conductive fillers wherein the conductive filler is selected from the group consisting of carbon fillers, metal oxide fillers, polymer fillers, charge transporting molecules and mixtures thereof, wherein the carbon filler is selected from the group consisting of carbon black, graphite, fluorinate carbon, and mixtures thereof and wherein the electrically conductive filler that is a metal oxide filler selected from the group consisting of titanium dioxide, tin oxide, indium tin oxide, iron oxide aluminum oxide, and mixtures thereof in order to exhibit high mechanical strength providing heat conducting properties this in turn improves the thermal efficiency of a fusing system employing the belt and possessing tailored electrical properties (col. 5 lines 3-6) as taught by *Schlueter Jr. et al.*

In response to applicant's argument that there is no motivation to combine *Yamaski et al.* with *Schlueter Jr. et al.* and the adhesives of *Parker et al.* and *Arnold et al.*, *Schlueter Jr.* teaches a thermoplastic substrate filled with a conductive filler selected from the group consisting of carbon fillers, metal oxide fillers, polymer fillers, charge transporting molecules and mixtures thereof, wherein the carbon filler is selected from the group consisting of carbon black, graphite, fluorinate carbon, and mixtures thereof and wherein the electrically conductive filler that is a metal oxide filler selected from the

Art Unit: 1745

group consisting of titanium dioxide, tin oxide, indium tin oxide, iron oxide aluminum oxide, and mixtures thereof in order to exhibit high mechanical strength providing heat conducting properties this in turn improves the thermal efficiency of a fusing system employing the belt and possessing tailored electrical properties (col. 5 lines 3-6) and Yamaski et al. teaches that the electrically conductive filler is a quaternary ammonium salt for the purpose of creating an electrically conductive substrate (col. 1 lines 24-25). Therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Parker et al. with the electrically conductive filler is a quaternary ammonium salt in order to create an electrically conductive substrate (col. 1 lines 24-25) as taught by Yamaski.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane Rhee whose telephone number is 571-272-1499. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jane Rhee
April 27, 2005



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER